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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/404,903	09/24/1999	DONALD F. AULT	PO9-99-046	8888

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EXAMINER
NGUYEN, VAN H

ART UNIT	PAPER NUMBER
2126	

_10_

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PP6

	Application No.	Applicant(s)
Office Action Summary	09/404,903	AULT ET AL.
	Examiner	Art Unit	
	VAN H NGUYEN	2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _6/24/03_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-43_ is/are pending in the application.

    4a) Of the above claim(s) _11-23,27-33 and 37-43_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-10,24-26 and 34-36_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _4, 7_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

1.   This Office Action is in response to the response to restriction requirement filed June 16,

2003, and the telephone conversation with Applicant's representative, Mr. William Kinnaman,

on July 28, 2003. Claims 1-10, 24-26, and 34-36 are elected for examination.

Information Disclosure Statement

2.   The references listed in the information disclosure statement submitted on 02/07/2000

have been already considered by the examiner in the duplicate copy information disclosure

statement filed on 12/28/2000.

Election/Restrictions

3.   Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I.   Claims 1-10, 24-26, and 34-36 drawn to message using queue, classified in class
           709, subclass 314.

   II.   Claims 11-20, 27-32, and 37-42 drawn to interprogram communication using
           message, classified in class 709, subclass 313.

   III.   Claims 21-23, 33, and 43 drawn to task management, classified in class 709,
           subclass 100.

4.   Inventions I, II, and III are related as subcombinations disclosed as usable together in a

single combination. The subcombinations are distinct from each other if they are shown to be

separately usable. In the instant case, invention I has separate utility such as message using

queue, whereas invention II has separate utility such as interprogram communication using

message, and invention III has separate utility such as task management. See MPEP § 806.05(d).

5.   Because these inventions are distinct for the reasons given above and have acquired a

separate status in the art as shown by their different classification, restriction for examination

purposes as indicated is proper.

6.   Because these inventions are distinct for the reasons given above and the search required

for Group I is not required for Groups II or III, restriction for examination purposes as indicated

is proper.

7.   During a telephone conversation with Mr. William Kinnaman on July 28, 2003, a

provisional election was made with traverse to prosecute the invention of Group I, claims 1-10,

24-26, and 34-36. Affirmation of this election must be made by applicant in replying to this

Office action. Claims 11-23, 27-33, and 37-43, withdrawn from further consideration by the

examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

8.   Applicant is reminded that upon the cancellation of claims to a non-elected invention, the

inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a petition under 37 CFR

1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10, 24-26, and 34-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In claim 1 (page 30), the limitation "the number of tasks" (line 5) and "said queue" (lines 5-6) lack antecedent basis.

- In claim 1 (page 30), the limitation "a queue" (line 8) is vague and indefinite.

- In claim 24 (page 33), the limitation "the number of tasks" (line 23) and "said queue" (line 24) lack antecedent basis.

- In claim 24 (page 33), the limitation "a queue" (line 26) is vague and indefinite.

- In claim 34 (page 36), the limitation "the number of tasks" (line 5) and "said queue" (lines 5-6) lack antecedent basis.

- In claim 34 (page 36), the limitation "a queue" (line 8) is vague and indefinite.

Dependent claims 2-10, 24-26, and 35-36 are rejected for fully incorporating the deficiencies of their base claim.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-10, 24-26, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Lumetta et al.** "Managing Concurrent Access for Shared Memory Active Messages" IEEE,

1998, pages 272-278 in view of **Kessler et al.** (U.S.5,841,973).

As to claim 1, Lumetta teaches (pages 272-275) a method of performing a recoverable

operation on a message queue (*message queues*) in response to a request (*request*) by a caller

(*senders*) in an information handling system, the method comprising the steps of:

- storing a use count for the message queue (*a ticket counter*);

- storing a use count flag (*a lock indicator*) for the caller indicating whether the caller has

acquired a lock (*a lock*) on the queue ;

- updating the use count (*the ticket counter is incremented automatically...it increments*

the service counter); and

- atomically with updating the use count, updating the use count flag (*when releasing a*

lock, a process moves the lock indicator from its slot into the next) to indicate whether the caller

has acquired a lock on the queue.

Lumetta does teach a use count for the message queue, but is silent on "a use count for

the message queue indicating the number of tasks accessing the queue."

Kessler teaches a use count for the message queue indicating the number of tasks

accessing the queue (*limit field 72 indicates a number of slots in message queue 60*; col.8, lines

30-36).

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to combine the teachings of Kessler with Lumetta because it would have

provided an efficient mechanism for serializing operations on the message queue.

As to claim 2, Lumetta teaches the recoverable operation is a locking operation, the

step of updating the use count comprising the step of incrementing the use count, the step of

updating the use count flag comprising the step of updating the use count flag to indicate that

the caller has acquired a lock on the queue (page 275).

As to claim 3, Lumetta teaches the recoverable operation is an unlocking operation,

the step of updating the use count comprising the step of decrementing the use count, the step

of updating the use count flag comprising the step of updating the use count flag to indicate

that the caller has released a lock on the queue (page 275).

As to claim 4, Lumetta teaches comparing the use count with a previously read use count

atomically with the updating steps, the updating steps being performed only if the use count

matches the previously read use count (page 275).

As to claim 5, Lumetta teaches the use count is stored in a message queue table having

an entry for the message queue (page 273).

As to claim 6, Lumetta teaches the message queue table also stores a pointer to the

queue, the method comprising the further step of comparing the pointer with a previously read

pointer atomically with the updating steps, the updating steps being performed only if the pointer matches the previously read pointer (pages 274-275).

As to claim 7, Lumetta teaches the message queue table also stores an identifier of the queue (page 275).

As to claim 8, Lumetta teaches the use count flag is stored in a control block for the caller (page 274).

As to claim 9, Lumetta teaches the control block for the caller also contains an identifier of the queue (page 275).

As to claim 10, Lumetta teaches the updating steps are performed by executing a single atomic instruction that updates the use count and, concurrently therewith, updates the use count flag (page 275).

Claim 24 is directed to an apparatus for performing the method of claim1, and is similarly rejected under the same rationale.

As to claim 25, Lumetta teaches means for comparing the use count with a previously read use count atomically with the updating operations, the updating operations being performed only if the use count matches the previously read use count (page 275).

As to claim 26, Lumetta teaches the use count is stored in a message queue table having an entry for the message queue, the message queue table also storing a pointer to the queue, the method comprising the further step of: comparing the pointer with a previously read pointer atomically with the updating operations, the updating operations being performed only if the pointer matches the previously read pointer (pages 274-275).

Claim 34 is directed to a program storage device readable by a machine for

implementing the method of claim1, and is similarly rejected under the same rationale.

As to claims 35-36, refer to claims 25-26 above for rejection.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- Baskey et al.	US 6345329	issued date: 02/2002
- Baskey et al.	US 6345327	issued date: 02/2002
- Futral et al.	US 6134619	issued date: 10/2000
- Chandra et al.	US 6058389	issued date: 05/2000
- Alferness et al.	US 6029205	issued date: 02/2000
- Futral et al.	US 5925099	issued date: 07/1999
- Alferness et al.	US 5602998	issued date: 02/1997
- Blount et al.	US 5222217	issued date: 06/1993

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to VAN H NGUYEN whose telephone number is (703) 306-5971.

The examiner can normally be reached on Monday-Thursday from 8:30AM - 6:00PM. The

examiner can also be reached on alternative Friday.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-9000.

Any response to this action should be mailed to:
Commissioner for Patents
PO Box 1450
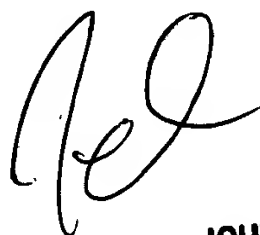**Alexandria, VA 22313-1450**

or fax to:

(703) 746-7239 (for formal communications intended for entry)
(703) 746-7238 (for After Final communications)
(703) 746-7140 (for informal or draft communications)

VHN
July 29, 2003

JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
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